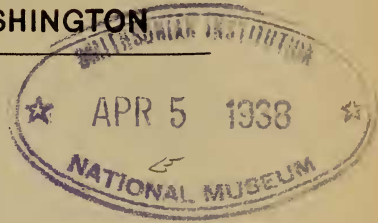


PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON



SIX NEW RODENTS FROM COAHUILA AND TEXAS
AND NOTES ON THE STATUS OF SEVERAL
DESCRIBED FORMS.

BY E. A. GOLDMAN.

In September, 1937, a party with Stanley P. Young of the Biological Survey, and Tappan Gregory of the Chicago Academy of Sciences in charge, visited the Carmen Mountains in northern Coahuila, Mexico. The main objective of the expedition was wildlife photography. These men succeeded in luring mountain lions into taking their own photographs in their native habitat for the first time so far as is known. A few mammals were collected, among them a chipmunk (*Eutamias*), a pocket gopher (*Thomomys*), and a woodrat (*Neotoma*), which are described as new. One of these is named for the collector, R. S. Sturgis, a member of the expedition.

STATUS OF *Thomomys lachugilla* BAILEY.

In connection with determining the Carmen Mountains pocket gopher it was necessary to review the material now available from neighboring territory, including the "Big Bend" region of Texas. This led to further consideration of the status of *Thomomys lachugilla* Bailey, and the reallocation of a few specimens. Study of the range of individual variation in topotypes of *lachugilla* and of *Thomomys bottae texensis* Bailey reveals characters showing very close alliance, and that seem to warrant the assumption of intergradation. Geographic races hitherto assigned specifically to *T. lachugilla* should, therefore, stand as follows:

- Thomomys bottae lachugilla* Bailey.....El Paso, Texas.
Thomomys bottae limitaris Goldman.....Boquillas, Texas.
Thomomys bottae confinalis Goldman.....Rock Springs, Texas.

DESCRIPTIONS OF NEW SUBSPECIES.

Eutamias dorsalis carminis, subsp. nov.

CARMEN MOUNTAINS CHIPMUNK.

Type.—From Carmen Mountains, Coahuila, Mexico (altitude 7,400 feet). No. 263378, ♂ young, skin and skull, U. S. National Museum (Biological Survey collection); collected by R. S. Sturgis, September 20, 1937. Original number 73.

Distribution.—Known only from the type locality in the high mountains of northern Coahuila.

General characters.—A dull colored subspecies, with light dorsal stripes obsolescent. Similar to *Eutamias dorsalis dorsalis* of New Mexico, but general color grayer, owing to a reduction of the buffy or tawny element, except along under side of tail; light dorsal stripes less distinct; facial stripes about as in *dorsalis*; skull more slender.

Color.—*Type* (fresh pelage): Top of head and upper parts in general (excluding stripes) finely mixed brown and white giving a grizzled effect, the white thinning out, leaving the brownish tone predominant on lower part of rump, forearms and thighs; dark facial stripes black, bordered by tawny; light facial stripes and postauricular patches grayish white; outer surfaces of ears blackish, edged with tawny anteriorly, becoming grayish white abruptly toward posterior margins; inner surfaces of ears clothed with a mixture of black and tawny hairs; median dorsal black stripe present as usual in the species; two pairs of grayish white dorsal stripes faintly indicated; two pairs of dark dorsal stripes paralleling light dorsal stripes almost imperceptible; lower part of flanks suffused with "ochraceous tawny" (Ridgway, 1912); under parts dull grayish; feet "cinnamon buff"; tail gray mixed with black above, deep tawny along the broad median line below, this color giving way abruptly to a deep black submarginal zone; tail edged with gray throughout its length.

Skull.—Closely resembling that of *dorsalis*, but more slender than usual in that form; dentition rather light.

Measurements.—*Type*: Total length, 193 mm.; tail vertebrae, 77; hind foot, 32. Skull (type): Greatest length, 33.9; zygomatic breadth, 18.8; breadth of braincase (at constriction between zygomata and auditory bullae), 16.5; interorbital breadth, 8.1; length of nasals, 10; maxillary toothrow, 5.4.

Remarks.—The discovery of this chipmunk in an isolated high mountain locality in Coahuila extends the known range of the species far to the east. The single specimen available indicates close relationship to typical *dorsalis*. No comparison with *Eutamias bulleri solivagus*, the only other chipmunk known to occur in Coahuila, is required.

Thomomys sturgisi, sp. nov.

CARMEN MOUNTAINS POCKET GOPHER.

Type.—From Carmen Mountains, Coahuila, Mexico (altitude 6,000 feet). No. 263376, ♀ adult, skin and skull, U. S. National Museum

(Biological Survey collection); collected by R. S. Sturgis, September 21, 1937. Original number 74.

Distribution.—Known only from the type locality in the high mountains of northern Coahuila.

General characters.—A small, dark-brownish, high mountain species. Allied to *Thomomys bottae limitaris* of the Big Bend region of Texas, but much darker, tail shorter, and skull slenderer. Similar in size to *Thomomys umbrinus perditus* of northern Nuevo Leon, but much darker and not nearly related.

Color.—*Type* (acquiring fresh pelage): Upper parts near "cinnamon" (Ridgway, 1912), purest on sides, forearms and thighs, heavily mixed with black which predominates on head and over back; under parts overlaid with pinkish buff; muzzle black; ears black; feet white; tail brownish above, white below.

Skull.—Similar in size to that of *limitaris*, but more slender; rostrum and nasals narrower; interorbital region more constricted; palate narrower; upper incisors narrower, thinner, more strongly recurved. Compared with that of *perditus*, the skull is similar in size, but narrower; nasals longer; zygomatic narrower; rostrum deeper anteriorly; nasals strongly recurved instead of strongly procumbent.

Measurements.—*Type*: Total length, 180 mm.; tail vertebrae, 50; hind foot, 26. A rather young male topotype: 168; 49; 23. *Skull* (type): Occipitonasal length, 34; zygomatic breadth, 20.3; breadth across squamosals (over mastoid), 17; interorbital constriction, 6.1; length of nasals, 11.8; maxillary toothrow (alveoli), 7.2.

Remarks.—While *Thomomys sturgisi* is allied to Texas forms of the *Thomomys bottae* group it exhibits well-marked differences, and the general evidence indicates that there may be no intergradation. Its occurrence on the opposite side of the Rio Grande from the range of the nearest known representative of *bottae* suggests that the river may be a barrier.

Specimens examined.—Two, from the type locality.

***Thomomys bottae pervarius*, subsp. nov.**

MARFA POCKET GOPHER.

Type.—From Lloyd Ranch, 35 miles south of Marfa, Presidio County, Texas (altitude 4,200 feet). No. 18201/25105, ♂ young adult, skin and skull, U. S. National Museum (Biological Survey collection); collected by Vernon Bailey, January 20, 1890. Original number 900.

Distribution.—Known only from the type locality.

General characters.—A light colored, medium-sized subspecies; color about as in *Thomomys bottae lachugilla* of extreme western Texas, but skull decidedly broader, more angular. Similar in general to *Thomomys bottae limitaris* of Boquillas, Brewster County, Texas, but much larger; under parts "pale pinkish buff" (Ridgway, 1912), instead of white. Somewhat similar to *Thomomys bottae texensis* of the Davis Mountains in cranial characters, but color much paler, the under parts pale pinkish buff instead of "pinkish cinnamon."

Color.—Type (winter pelage): Upper parts near "cinnamon buff" (Ridgway), moderately mixed with black on head and middle of back, passing gradually into "pinkish buff" along sides, on forearms, and thighs; under parts well overlaid with "pale pinkish buff"; ears black, except anterior base, which is invaded by buffy hairs; postauricular black areas small; feet white; tail light brownish above, dull whitish below.

Skull.—Similar in general to that of *lachugilla*, but broader, more angular; braincase broader; zygomata more widely and squarely spreading, the antero-external angles more prominent; rostrum relatively narrower; molariform teeth relatively smaller; upper incisors less recurved. Differing from that of *limitaris* mainly in considerably larger size. Compared with *texensis* the braincase is broader; zygomata more widely and squarely spreading; auditory bullae larger; dentition similar.

Measurements.—Type: Total length, 217 mm.; tail vertebrae, 70; hind foot, 27.5. An adult female topotype: 197; 66; 27.5. *Skull* (type [♂] and an adult female topotype): Occipitonasal length, 36.4, 34.1; zygomatic breadth, 23.3, 20.8; breadth across squamosals (over mastoids), 19.6, 18.1; width of rostrum (at constriction near zygomata), 7.3, 6.8; interorbital constriction, 7, 6.7; length of nasals, 13, 11.9; maxillary toothrow (alveoli), 7.3, 6.8.

Remarks.—The present form is based on two specimens formerly assigned to *lachugilla*, but which prove to exhibit a departure in cranial characters as pointed out. An approach in cranial details to *Thomomys bottae texensis*, which contrasts strongly in color, is also apparent.

***Thomomys baileyi spatiosus*, subsp. nov.**

ALPINE POCKET GOPHER.

Type.—From Alpine, Brewster County, Texas (altitude about 4,500 feet). No. 100427, ♂ adult, skin and skull, U. S. National Museum (Biological Survey collection); collected by Vernon Bailey, May 26, 1900. Original number 7368.

Distribution.—Known only from the general region of the type locality.

General characters.—A dark, brownish buff subspecies of medium size. Similar in general to *Thomomys baileyi baileyi* of Sierra Blanca, western Texas, but color darker; cranial characters, especially the longer rostrum, distinctive. Somewhat similar to *Thomomys baileyi nelsoni* of Chihuahua, but ground color of upper parts near "cinnamon buff" (Ridgway, 1912) instead of mikado brown, and skull with much heavier rostrum.

Color.—*Type* (acquiring fresh pelage): Upper parts near "cinnamon" (Ridgway) moderately and evenly mixed with black, giving a dark general tone, becoming "cinnamon buff" along sides, on forearms, and thighs; under parts overlaid with "pinkish buff"; muzzle blackish; ears encircled by black; feet white; tail light brown above, grayish below, becoming white at extreme tip.

Skull.—Similar in general to that of typical *baileyi*, but vault of cranium higher; rostrum and nasals broader and longer; nasals more depressed between premaxillae, producing a concavity of upper surface in transverse

section across base of rostrum, the posterior ends of nasals more squarely truncate; auditory bullae slightly smaller; molariform teeth similar, but rather light; upper incisors less strongly procumbent. Compared with that of *nelsoni* the skull is less flattened; supraoccipital region bulging farther posteriorly over foramen magnum; rostrum much longer and broader; nasals longer and broader, less tapering or wedge-shaped posteriorly; dentition similar, but upper incisors more decurved.

Measurements.—*Type*: Total length, 210 mm.; tail vertebrae, 63; hind foot, 27. *Skull* (type): Occipitonasal length, 38.9; zygomatic breadth, 25.4; breadth across squamosals (over mastoids), 20.7; width of rostrum (at constriction near zygomata), 7.7; interorbital constriction, 7.1; length of nasals, 15.4; maxillary toothrow (alveoli), 7.5.

Remarks.—*T. b. spatiosus* is based on specimens that had been referred to *Thomomys lachugilla* (= *Thomomys bottae lachugilla*), but prove to represent an eastern extension of the known range of *T. baileyi*. The cranial characters presented appear to be well beyond the limits of individual variation in typical *baileyi*, the form with which it requires closest comparison.

Specimens examined.—Four, all from Texas, as follows: Alpine (type locality), 1; Paisano, 1 (skull only); Presidio County, 2 (2 skins, 1 skull, without exact locality).

***Thomomys umbrinus analogus*, subsp. nov.**

SIERRA GUADALUPE POCKET GOPHER.

Type.—From Sierra Guadalupe, southeastern Coahuila, Mexico. No. 116994, ♂ adult, skin and skull, U. S. National Museum (Biological Survey collection); collected by Nelson and Goldman, April 25, 1902. Original number 15117.

Distribution.—High mountains and desert plains of southeastern Coahuila.

General characters.—Closely allied to *Thomomys umbrinus perditus* of northern Nuevo Leon but darker, and cranial details, especially the broad nasals, distinctive. Somewhat similar to *Thomomys umbrinus potosinus* of San Luis Potosi, and *Thomomys umbrinus goldmani* of Durango, but contrasting strongly in pinkish buff instead of mikado brownish ground color of upper parts; skull more elongated than in either.

Color.—*Type*: Upper parts near "pinkish buff" (Ridgway, 1912), purest along sides, rather heavily mixed with black on top of head and over back; outer sides of forearms and thighs about like sides; under parts in general overlaid with "pale pinkish buff," varying to nearly pure white on inguinal region; muzzle blackish; ears and small postauricular spots black; feet white; tail light brownish above on basal two-thirds, whitish below, and whitish all around on terminal third.

Skull.—Very similar to that of *perditus*, but nasals decidedly broader, less wedge-shaped posteriorly; interparietal larger; auditory bullae slightly smaller, less rounded and inflated. Similar in size to that of *potosinus*, but braincase more elongated; interorbital region less constricted; zygomata

narrower, less strongly bowed outward posteriorly; nasals broader, less wedge-shaped posteriorly; interparietal larger; auditory bullae larger; upper incisors broader, more decurved. Compared with *goldmani* the nasals are broader, less wedge-shaped posteriorly; zygomatic less squarely spreading, the sides less nearly parallel; interparietal larger; bullae larger, less flattened, bulging farther below plane of basioccipital; incisors broader.

Measurements.—*Type*: Total length, 201 mm.; tail vertebrae, 58; hind foot, 26. Two adult male topotypes: 190, 178; 68, 52; 28, 26. An adult female topotype: 205; 64; 28. *Skull* (type): Occipitonasal length, 35.4; zygomatic breadth, 22.4; breadth across squamosals (over mastoids), 17.2; interorbital constriction, 7; length of nasals, 12.4; maxillary toothrow (alveoli), 7.2.

Remarks.—This high mountain form requires no very close comparison with any of the other subspecies of *Thomomys umbrinus* except *perditus* of the plains region of northern Nuevo Leon. It differs from *perditus* only slightly in color, but the cranial features are fairly well marked.

Specimens examined.—Total number, 10, all from Coahuila, as follows: Carneros, 4; Jaral, 1; Sierra Encarnacion, 1; Sierra Guadalupe (type locality), 4.

***Neotoma mexicana inornata*, subsp. nov.**

CARMEN MOUNTAINS WOOD RAT.

Type.—From Carmen Mountains, Coahuila, Mexico (altitude 6,100 feet). No. 263386, ♂ adult, skin and skull, U. S. National Museum (Biological Survey collection), collected by R. S. Sturgis, September 22, 1937. Original number 79.

Distribution.—Known only from the type locality.

General characters.—A dark, high mountain subspecies, similar to *Neotoma mexicana mexicana* of Chihuahua, but decidedly darker, the ground color of upper parts vinaceous buffy instead of pinkish buffy, and more profusely mixed with black; skull slightly different. Somewhat like *Neotoma navus* of the mountains of southern Coahuila but darker, the ground color of upper parts vinaceous buffy instead of light ochraceous buffy; cranial features, especially the concave instead of convex lateral margins of frontals, suggesting specific distinction.

Color.—*Type* (fresh pelage): Upper parts near "vinaceous buff" (Ridgway, 1912), purest along sides, heavily mixed with black on top of head and over back; under parts overlaid with white, the fur basally slaty gray, except small areas on throat and inguinal region which are pure white; muzzle blackish; outer sides of forearms and thighs rather distinctly dusky, the dark under color showing through; ears dark brownish; upper surfaces of wrists and ankles blackish; feet white; tail sharply bicolor, black above, white below.

Skull.—Very similar to that of *mexicana*, but palate with a well-developed posterior median projection (usually absent in *mexicana*). Compared with that of *N. navus* the skull is broader; lateral margins of frontals concave, as usual in forms of *mexicana*, instead of convex and distinctly projecting

as supraorbital shelves; anterior palatine foramina narrower; palate with a posterior median projection (posterior border of palate evenly concave in *navus*).

Measurements.—*Type*: Total length, 336 mm.; tail vertebrae, 156; hind foot, 38. Two adult topotypes: 339, 309; 156, 140; 35, 35. *Skull* (type): Greatest length, 42.7; condylobasal length, 39.8; zygomatic breadth, 22; interorbital breadth, 5.2; length of nasals, 16.2; length of anterior palatine foramina, 8.5; length of palatal bridge, 7.7; maxillary toothrow (alveoli), 8.7.

Remarks.—In cranial characters this subspecies closely approaches typical *mexicana*, but the color is quite distinctive. It is surprisingly unlike *N. navus*, a near geographic southern neighbor, also a member of the *mexicana* group.